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SEVENTH ANNUAL REPORT

UNIVERSITY OF MARYLAND

EXTENSION SERVICE

FOR THE

YEAR ENDING JUNE 30, 1921

Cooperative Extension Work in Agriculture and Home Economics, Extension Service, University of Maryland and United States Department of Agriculture Cooperating.

T. B. SYMONS, Director

Distributed in furtherance of Acts of Congress of May 8 and June 30, 1914

UNIVERSITY OF MARYLAND—EXTENSION SERVICE

THE BOARD OF REGENTS OF THE UNIVERSITY OF MARYLAND AND THE MARYLAND STATE BOARD OF AGRICULTURE.

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†E. C. AUCHTER.....Specialist in Horticulture.
W. R. BALLARD.....Specialist in Vegetable and Landscape Gardening.
M. D. BOWERS.....Specialist in Agricultural Journalism.
B. E. CARMICHAEL.....Specialist in Animal Husbandry.
†R. W. CARPENTER.....Specialist in Farm Engineering.
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†E. N. CORY.....Specialist in Entomology.
†J. A. GAMBLE.....Specialist in Dairying.
R. A. JEHLE.....Specialist in Pathology.
F. W. OLDENBURG.....Specialist in Agronomy.
†C. S. RICHARDSON.....Specialist in Educational Extension.
S. B. SHAW.....Specialist in Horticulture.
†C. E. TEMPLE.....Specialist in Pathology.
†F. W. BESLEY.....Specialist in Forestry.

COUNTY DEMONSTRATION AGENTS.

County.	Name.	Headquarters.
Allegany	*R. F. McHenry	Cumberland
Anne Arundel	*G. W. Norris	Annapolis
Baltimore	*Edward E. McLean	Towson
Calvert	*J. H. Drury	Chaney
Caroline	*W. C. Thomas	Denton
Carroll	*F. W. Fuller	Westminster
Cecil	*A. D. Radebaugh	Elkton
Charles	*J. P. Burdette	La Plata
Dorchester	*P. W. Moore	Cambridge
Frederick	*P. A. Hauver	Frederick
Garrett	*J. A. Towler	Oakland
Harford	*B. B. Derrick	Bel Air
Howard	*R. L. Post	Ellicott City
Kent	*H. B. Derrick	Chestertown
Montgomery	*W. C. Snarr	Rockville
Prince George's	*W. B. Posey	Upper Marlboro
Queen Anne's	*O. C. Jones	Centerville
St. Mary's	*G. F. Wathen	Loveville
Somerset	*C. Z. Keller	Princess Anne
Talbot	*E. P. Walls	Easton
Wicomico	*G. R. Cobb	Salisbury
Washington	*S. E. Day	Hagerstown
Worcester	*E. I. Oswald	Snow Hill
Harford	*G. R. Stuntz (Asst. Co. Agt.)	Bel Air

*In co-operation with U. S. Department of Agriculture.
†Devoting part time to Extension Work.

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T. B. SYMONS, Director

Distributed in furtherance of Acts of Congress of May 8 and June 30, 1914

LETTERS OF TRANSMITTAL

DR. A. F. WOODS,
President:

I have the honor to submit herewith the Seventh Annual Report on the work of the Extension Service of the University of Maryland, in co-operation with the U. S. Department of Agriculture, for the fiscal year ending June 30, 1921.

Respectfully submitted,
THOMAS B. SYMONS,
Director, Extension Service.

College Park, Md.,
January 1, 1922.

HON. S. M. SHOEMAKER,
Chairman, State Board of Agriculture:

In accordance with the requirements of the Act of Congress, approved May 8, 1914, and known as the Smith-Lever Act, I have the honor to transmit herewith, for submission to the Governor of the State, the Seventh Annual Report of the Extension Service of the University of Maryland, in co-operation with the U. S. Department of Agriculture, for the fiscal year ending June 30, 1921.

Respectfully submitted,
A. F. WOODS,
President.

College Park, Md.,
January 1, 1922.

TO HIS EXCELLENCY ALBERT C. RITCHIE,
Governor of Maryland:

I have the honor to transmit herewith the Seventh Annual Report of the Extension Service of the University of Maryland, in co-operation with the U. S. Department of Agriculture, submitted to me through the President of the University.

Respectfully submitted,
S. M. SHOEMAKER,
Chairman, State Board of Agriculture.

Baltimore, Md.
January 1, 1922.

SEVENTH ANNUAL REPORT
OF THE
UNIVERSITY OF MARYLAND EXTENSION SERVICE
FOR THE YEAR ENDING JUNE 30, 1921.

By Thomas B. Symons, *Director.*

Introduction.

The farmers of Maryland have experienced a most difficult and generally unprofitable year during 1920-1921. Aside from the general drop in the prices of farm products, for the most part much below the cost of production, weather conditions have been somewhat unfavorable. Killing frosts in the spring ruined the prospects for a fruit crop. Practically all peaches were killed and only about 10% of our apple crop survived. Later on, unseasonably warm weather, followed by a wet cold spell, affected the wheat crop and a drought during the summer months seriously injured the growing crops in the southern and eastern sections of the State. Due to the large carry-over of canned goods, particularly tomatoes, less than 15% of a crop was raised. This was a serious blow to many farmers on the Eastern Shore. Therefore, the season of 1920-1921 will rival in some respects the low prices and depressing period of 1893, so far as the prosperity of our farmers is concerned.

For these reasons, there has been an added burden upon the Extension Service, to render all possible assistance during this trying period. Changes in rotations of crops had to be proposed and demonstrated, greater economies had to be practiced in the general operation and conduct of the farm and every assistance given for the better marketing of farm products. In fact, the very hard times that many farmers have experienced has driven them to the county agents and the University for advice, and they have realized more and more the great good that can come by practicing modern methods of culture and farm management in reducing costs and increasing the efficiency of their operations.

The farmers of the State have come to realize more vividly the advantages of co-operation among themselves and the imperative demands of economies in agriculture. Their interest in demonstration work was never so acute, and their determination to promote co-operative action in the buying of farm supplies and selling of farm products, never more real or sanguine than at the present time.

As a result, the farmers are now organizing what is termed "The Agricultural Corporation of Maryland"—which is designed ultimately to develop to the fullest extent the co-operative movement

among the agricultural interests of the State; and to perform for those interests every service which a strong, universal business organization can render.

Moreover, there is demanded of the Extension Service more information and service on co-operative marketing, standardization and investigation, to enable the farmers to handle their crops more efficiently; so that, notwithstanding the poor year for the State's agricultural interests, this very condition has impressed upon our people the further need for educational and demonstrational work,—the necessity of proper organization among rural people and for co-operative marketing of farm products and purchase of farm supplies to better enable them to conduct the business of farming along business lines.

Crop Yields for 1921.

Notwithstanding the high costs of production and the low prices, the farmers of Maryland have produced as good crops as weather conditions would permit.

The following figures give the 1920 Census, with the estimates from the Bureau of Markets and Crop Estimates for 1920 and 1921 for comparison:

Maryland Crop Statistics.

From the Bureau of Crop Estimates and the U. S. Census
Arranged by F. W. Oldenburg, Extension Agronomist.

	1921	1920	1919	1917	1909
1. CORN					
Acres.....	645,000	650,000	645,000	700,000	647,000
Yield per acre..	39	38.5	41	39	31.4
Tot. production.	25,155,000	25,025,000	26,445,000	27,300,000	17,911,000
Price, Dec. 1...$	.49	$ .81	$ 1.40	$ 1.40	$ .63
Tot. farm val..$	12,326,000	$20,270,000	$37,023.000	$39,313,000	$11,551,000
Val. per acre...$	19.11	$ 31.18	$ 57.40	$ 54.60	$ 18.08
2. WHEAT					
Acres.....	568,000	598,000	664,000	675,000	589,000
Yield per acre..	14	17	13.5	17	16
Tot. production.	7,952,000	10,166,000	8,964.000	11,475,000	9,463,000
Price, Dec. 1...$	1.03	$ 1.65	$ 2.15	$ 2.07	$ 1.10
Tot. farm val..$	8,191,000	$16,774,000	$19,273,000	$23,753,000	$10,410,000
Val. per acre...$	14.42	$ 28.05	$ 29.02	$ 35.19	$ 17.60
3. HAY					
Acres.....	394,000	403,000	384,000	442,000	398,000
Yield, acre, tons	1.35	1.55	1.40	1.25	1.20
Tot. prod., tons	531,000	624,000	538,000	552,000	477,000
Price, Dec. 1...$	15.00	$ 25.00	$ 24.00	$ 19.90	$ 12.60
Tot. farm val..$	7,995,000	$15,552,000	$12,900,000	$10,985,000	$ 6,011,000
Val. per acre...$	20.38	$ 38.75	$ 33.60	$ 24.88	$ 17.60

4. RYE					
Acres.....	17,000	17,000	16,000	25,000	28,000
Yield per acre..	14	15.4	14	16	12.7
Tot. production.	238,000	262,000	231,000	384,000	357,000
Price, Dec. 1...$	.92	$ 1.56	$ 1.63	$ 1.68	$ .70
Tot. farm val..$	219.000	$ 409,000	$ 377,000	$ 645,000	$ 252,691
Val. per acre...$	12.88	$ 24.02	$ 22.82	$ 26.88	$ 8.90
5. OATS					
Acres.....	60,000	50,000	49,000	47,000	49,000
Yield per acre..	27	32.5	28	31	23.6
Tot. production.	1,620,000	1,625,000	1,372,000	1,457,000	1,160,000
Price, Dec. 1...$	.45	$ .70	$ .82	$ .75	$ .49
Tot. farm val..$	729,000	$ 1,138,000	$ 1,125,000	$ 1,093,000	$ 569,000
Val. per acre...$	12.15	$ 22.75	$ 22.96	$ 25.25	$ 11.80
6. WHITE POTATOES					
Acres.....	49,000	54,000	50,000	60.000	39,299
Yield per acre..	65	102	94	100	87.6
Tot. production.	3,165,000	5,508,000	4,700,000	6,000,000	3,444.000
Price, Dec. 1...$	1.10	$ .95	$ 1.30	$ 1.19	$ .52
Tot. farm val..$	3,504,000	$ 5.233,000	$ 6,110,000	$ 7,140,000	$ 1,782,000
Val. per acre...$	71.50	$ 96.90	$ 122.20	$ 119.00	$ 45.55
7. SWEET POTATOES					
Acres.....	9,000	9,000	10,000	10 000	7,956
Yield per acre..	100	126	140	118	133
Tot. production.	900,000	1,134.000	1,400,000	1.180,000	1,065,000
Price, Dec. 1...$	1.40	$ 1.15	$ 1.33	$ 1.00	$ .46
Tot. farm val..$	1,260,000	$ 1,304,000	$ 1,862,000	$ 1,180,000	$ 483.751
Val. per acre...$	140.00	$ 144.00	$ 186.00	$ 118.00	$ 61.18
8. TOBACCO					
Acres.....	26,000	35.000	29.000	28,600	26,000
Yield, acre, lbs.	715	875	675	790	685
Tot. prod.,. lbs.	18,590,000	30,625,000	19,575,000	22,594,000	17,845,000
Price, Dec. 1...$	.19	$ .29	$ .30	$ .20	$ .083
Tot. farm val..$	3,532.000	$ 8,881,000	$ 5,872,000	$ 4,519,000	$ 1,473,000
Val. per acre...$	135.85	$ 253.75	$ 202.50	$ 158.00	$ 58.93
SUMMARY					
Acres in all crops.		2,194,000	2.291.000	2,160.000	1,934,954
Val. all crops....$	48,025.000	$90,036,000	$110,119,000	$88,105,000	$31,454,000
			(Census)		

ADMINISTRATION.

The administration of the Extension Service, during the past year, has been conducted as heretofore. Our force as a whole co-operated effectively in carrying out the extension program for the State. There is no evidence of one department "going it alone"—the desire of all being to aid the men and women, boys and girls, on the farms in every possible manner. There has been no change in the administration officers during the year.

The Director was forced to be absent from the office for four months in the spring, but the work was admirably administered by the Assistant Director, Dr. F. B. Bomberger, during that period. The Assistant Director, Dr. Bomberger, and Miss Venia M. Kellar, State Home Demonstration Agent, assist the Director in supervising the work of the men and women agents and the specialists.

The relation of the Service to other divisions of the Institution is most satisfactory. Specialists of the Experiment Station and subject-matter departments of instruction aid the Extension forces whenever their other duties will permit. Cordial relations exist between the Service and the State Department of Public Instruction. Our boys' and girls' club work is conducted in co-operation with the school authorities. As the President of the University is the Executive officer of the State Board of Agriculture, the work of the Departments of the State along agricultural lines is properly correlated.

State Farmers' Organizations.

The relations of the Extension Service to the State Farmers' Organizations are very cordial and co-operative. Every effort has been made by the Service to assist the farmers' organizations in every legitimate manner. Several members of the Extension force serve as Secretaries to the State-wide educational organizations with which their specialties are concerned. The Director has served as Secretary of the Maryland Agricultural Society since its formation several years ago. Several county agents have served as Masters of local granges and every assistance has been given the State Grange and its work.

By these connections, we have been able to maintain cordial relations between all organizations in the State and to promote a unity of effort that has been most advantageous in advancing the interests of agriculture throughout the State.

The Director suggested last year that he resign as Secretary of the Agricultural Society, but it was felt by the Executive Council that during this rather critical period, it was best to make no change in the personnel of the office. There is no division in the agricultural forces of the State and all are working together for the good of all.

Sources of Extension Revenue.

During the fiscal year ending June 30, 1921, there were available for extension work the following funds: Federal Smith Lever, $50,024.78; State Smith Lever, $40,024.78; U. S. Department of Agriculture (regular), $19,000; Supplementary Extension Fund (federal), $19,366.83; County Demonstration Fund, $48,000; State Fund for

General Extension, $5,000; State Horticultural Fund, $8,000, and about $29,000 was contributed by the various counties, or a total of $218,416.39.

During the present fiscal year, ending June 30, 1922, there is available: Federal Smith Lever, $50,642.34; State Smith Lever, $40,642.34; U. S. Department of Agriculture (regular), $19,000; Supplementary Extension Fund (federal), $16,934.31; County Demonstration Fund, $48,000; State Fund for General Extension, $5,000; State Horticultural Fund, $8,000, and about $33,000 was contributed by the various counties, or a total of $221,218.99.

A detailed statement of the expenditure of the funds available for the fiscal year ending June 30, 1921, will be appended to the published report.

The large increase of county appropriations for the present year demonstrates the popularity of county agent work. Every county board was urged to reduce taxes the past year on account of acute financial conditions; so that, in the face of this situation to have largely increased the county appropriations is a tribute to the work of the agents and specialists. We have continued, what we consider a wise policy, in having the agents supported only from public funds, viz: Federal, State and County appropriations.

Changes in Personnel.

The following changes in personnel have occurred during the past year: Mr. W. C. Snarr, Assistant County Agent in Harford County, was transferred to Cecil County as County Agent to succeed Mr. J. H. Knode, who resigned March 15th; Mr. G. R. Stuntz was appointed Assistant County Agent in Harford County April 16th to succeed Mr. Snarr; Mr. A. D. Radebaugh was appointed County Agent in Cecil County September 6th to succeed Mr. W. C. Snarr, who was transferred to Montgomery County September 6th to succeed Mr. F. J. Van Hoesen, who resigned September 1st; Mr. G. H. Bedell, Animal Husbandry Specialist, resigned March 31st and was succeeded by Mr. B. E. Carmichael on July 5th; Dr. R. A. Jehle was appointed as Specialist in Pathology on January 1st; Mr. G. E. Wolcott, Dairy Specialist, resigned October 10th and was succeeded by Mr. J. A. Conover on November 1st; Mr. H. W. Rickey, Poultry Specialist, resigned November 7th.

Miss Olive Mitchell resigned as Agent in Wicomico County January 1st and was succeeded on February 21st by Miss Clara Mullen; Miss Sue Frick resigned as Agent in Washington County March 5th and was succeeded by Mrs. E. S. Bohannan on March 16th; July 1st Mrs. Bohannan was transferred to Charles County and Miss S. S. Garberson was appointed agent in Washington County, effective July 1st; Miss Imogene Gardiner resigned as agent in Charles

County May 31st; Miss Mary L. Byrn resigned as agent in Queen Anne's County April 16th; September 30th Miss Dorothy Ross resigned as agent in Cecil County and was succeeded by Miss E. V. Hodgson October 1st; Mrs. E. G. Norman resigned as agent in Caroline County October 11th; Miss Laura Henshaw resigned as agent in Garrett County November 1st; Mrs. Celeste C. Moore resigned as agent in Dorchester County December 10th; Mrs. M. C. Bell was appointed District Agent June 16th; Miss Bertha Knight was appointed District Agent on July 1st; on September 30th Miss Ola M. Day resigned as District Agent.

Increasing Efficiency of Workers.

Every effort was made, with our limited supervisory force, to increase the efficiency of the Extension workers. The first Monday of each month is devoted to a regular conference with Extension Specialists. At this conference plans of work are gone over and reports received upon the progress of projects in the field.

The county agents get together as often as possible. An annual conference of agents is held and several group meetings are held during the year. A special summarized statement has been prepared during the past year for measuring the efficiency of the county agents. The supervisor, in visiting the agent can thus go over this statement with the agent and learn pretty definitely what is being done in the county. Each agent and specialist submits weekly and yearly reports. Maps accompany the annual reports visualizing the work in all the counties of the State.

The organization of the office at headquarters is admirable and efficient. A splendid corps of stenographers and clerks working in a central office under the general supervision of Miss K. G. Connolly, Chief Clerk, serve to dispatch the work of the officers and specialists. The keeping of records and financial accounts for the service is a most arduous task, on account of the different funds and fiscal requirements.

A total of 24,039 first-class letters have been mailed from headquarters during the year, while the total pieces of mail sent from the office has been about 48,266.

In concluding the discussion under the head of "Administration," I am under obligations to all the members of the Service and to the officials of the States Relations Service for cordial co-operation and loyal support in directing the work of the Extension Service.

Publications.

The following publications have been issued by the Service during the past year: Bulletin No. 22, "Marketing Farm Products," 3,000 copies, 56 pages; Bulletin No. 23, "Garden Flowers," 3,000 copies, 32 pages; Bulletin No. 21 (revised), "Sewing Course for Club Members," 3,000 copies, 25 pages; Sixth Annual Report, 2,500 copies, 75 pages; Circular No. 48, "Planting Fruit Trees," 3,000 copies, 4 pages; Circular No. 4 (revised), "Strawberries," 1,000 copies, 4 pages; Circular No. 10 (revised), 5,000 copies, 4 pages; Information Card No. 1, "Directions for Using Paradichlorobenzene," 2,500 copies; Card No. 2, "Community Songs," 2,500 copies.

In addition, the Extension Service News, a monthly publication, has been issued regularly. A total of 108,000 copies with 432,000 pages have been published. Mr. M. D. Bowers, Specialist in Agricultural Journalism, has rendered efficient service in preparing press matter for daily and weekly papers. He reports that the Information Department of the Extension Service has five well defined purposes in view, which may be summarized as follows:

1. To give timely information to the farmer.
2. To familiarize the public, and particularly the rural public, with the activities of the Extension Service, the Experiment Station and the University as a whole to the end that the service offered by these agencies may be more generally employed.
3. To give support to farm organizations and other interests engaged in promoting the State's agricultural welfare.
4. To give due prominence to individual and group achievements in agriculture likely to stimulate on the part of others pride in the industry and achievements of similar character.
5. To keep before the public the importance of agriculture as an industry and to present some of its more pressing problems in an effort to bring about a clearer understanding between urban and rural classes.

In the pursuit of these purposes, Mr. Bowers has employed such means as a limited allotment of funds has made available.

Every effort has been made to issue press material of a character likely to appeal to newspapers because of its basic news value or to farm publications because of its informative nature. The result has been a gratifying response on the part of the press. It is impossible to estimate the number of people that the Service has reached through this means. No accurate or adequate check on the number of items printed from material supplied to the press in this manner

has been attempted, owing to the limited number of newspapers received in this office. Clippings on file from a very limited number of publications, however, will give an idea of the use to which this material has been put by the newspapers of the State and the amount of space devoted to it. The clippings on file indicate the following amounts of space measured in column inches:

News bulletins.....	2,100	column inches.
County agents notes...	410	column inches.
Special Articles.....	680	column inches.

In addition, twenty-two special articles of 1,000 or more words have been prepared by Mr. Bowers and used in daily papers, farm publications in Maryland and for similar publications outside the State. The Specialists submit the titles of these extended articles.

Mr. Bowers has had exclusive charge of the preparation of matter for the Extension Service News, the monthly publication of the Service. Many articles from this publication have been reproduced in other mediums.

During the year the Specialist has attended a number of meetings and conferences in the State. He assists in giving publicity to the agricultural organizations in the State; he assisted in arranging the information booths at the Timonium and Southern Maryland Fairs, and has addressed six large public gatherings.

There are great possibilities for development in proper publicity of the Extension Service work and it is very gratifying to have made the progress that Mr. Bower's report shows during the past year.

Projects.

The work of the Service is conducted under approved projects. These projects, covering county agents and specialists work, are first approved by the States Relations Service, U. S. Department of Agriculture. It is therefore best to discuss the different lines of work under the project headings.

County Demonstration Work.

All county agent work is conducted under this project. The Specialists' projects, of course, are correlated with the agents' work through practical demonstrations in the field. It has been our hope that we could discuss the agricultural progress of each county in the annual report, but it is feared that inadequate funds will prevent this procedure this year.

The county demonstration work has made good progress during the past year. We have been able to maintain an agent in each county of the State. The farmers are depending upon our agents to lead in all agricultural movements.

Splendid results have been secured in the formation of county federations of community, grange and other organizations, through which the county Extension programs are carried out as far as

possible.

Considerable progress has been made in co-operative effort among farmers in the purchasing of farm supplies and the selling of farm products. The agents' reports show a total co-operative business during the past year of $4,599,367.00. The agents, of course, have nothing to do with the business transactions. They only serve to organize and demonstrate to the farmers the advantage of co-operation.

Every effort is being made to standardize the products of a community as this is fundamental to successful co-operative selling of farm products which is the most important to farmers. The county agent's position is a most difficult one to fill. We have a strong force, who are untiring in their efforts to serve the farmers of the State.

During the past season, 1921, the county agents report 15,653 visits to farmers on their farms; they had 42,045 visits or calls upon them for information and advice; they traveled 186,343 miles in the counties and a total of 2,067 meetings were held with an attendance of approximately 172,726.

The annual reports of the agents show a wonderful amount of work accomplished and a splendid style of presentation. The summary figures, which will follow, show to only a meagre degree the extent of the work that is being done by this force in the counties of the State. The Assistant Director, Dr. Bomberger, has assisted in the supervision of the county agent force.

The following county agents are serving in their respective counties:

County	*Name*	*Headquarters*
Allegany	R. F. McHenry	Cumberland
Anne Arundel	G. W. Norris	Annapolis
Baltimore	E. E. McLean	Towson
Calvert	J. H. Drury	Chaney
Caroline	W. C. Thomas	Denton
Carroll	F. W. Fuller	Westminster
Cecil	A. D. Radebaugh	Elkton
Charles	J. P. Burdette	La Plata
Dorchester	P. W. Moore	Cambridge
Frederick	P. A. Hauver	Frederick
Garrett	J. A. Towler	Oakland
Harford	B. B. Derrick	Bel Air
Howard	R. L. Post	Ellicott City
Kent	H. B. Derrick	Chestertown
Montgomery	W. C. Snarr	Rockville
Prince George's	W. B. Posey	Upper Marlboro
Queen Anne's	O. C. Jones	Centerville
St. Mary's	G. F. Wathen	Loveville
Somerset	C. Z. Keller	Princess Anne
Talbot	E. P. Walls	Easton
Washington	S. E. Day	Hagerstown
Wicomico	G. R. Cobb	Salisbury
Worcester	E. I. Oswald	Snow Hill

Local Agents.

Southern Maryland.....J. F. Armstrong (colored).....Seat Pleasant
Eastern Shore.....L. H. Martin (colored).....Princess Anne

Summary of Men's Work.

The following summary of work conducted is taken from the county agents' reports:

	Number of Demonstrators	*Number of Acres Involved*	*Average Yield*	*Number of Co-operators*	*Number of Acres Involved*	*Average Yield*	*Average for State*
Corn	226	2,276	66.6	1,006	13,143	53.2	37
Wheat	101	2,543	20.8	655	10,614	17.3	13.6
Rye	32	228	19.	310	3,181	15.9	14.
Other Grains	44	412½	....	77	559	....	....
Alfalfa	154	1,362	3.5*	609	3,732	3.2	2.1*
Soy Beans	173	1,758	16.2†	498	3,180	16. †	12.5†
			2.6*	...	.....	2. *	1.9*
Cowpeas	62	959	15.5†	365	1,909	10.4†	9.5†
			2.8*	...	.....	2.4*	1.6*
Other Legumes	149	2,263¾	....	261	3,113	....	....
Legumes and Grass Mixtures	85	838	2.6*	757	3,825	2.	1.4
Irish Potatoes	201	650.3	169.	2,135	.....	109.	....
Sweet Potatoes	424	1,882	181.	644	.....	122.	....
Tobacco	28	97	1137.5‡	123	.....	709.	....
Tomatoes	26	145¼	316.	159	688	216.	....

*Tons.
†Bushels.
‡Pounds.

Orchards:
Eight hundred and seventy-three instructed in the culture of 1,225,797 trees.

Horses:
Pure bred stallions purchased..... 5
Horses and mules cared for as directed by county agents..... 137

Dairy Cattle:
Pure bred bulls purchased..... 99
Pure bred cows and heifers purchased..... 359
Grade cows purchased..... 384
Cows tested for profitable milk production..... 2,528
Farmers instructed in feeding methods..... 724
Cows owned by farmers who were instructed in feeding methods 5,994

Beef Cattle:
Pure bred bulls purchased..... 7
Pure bred heifers purchased..... 6
Feeding cattle purchased..... 194
Feeding demonstrations conducted..... 7
Cattle in feeding demonstrations..... 147

Hogs:
Pure bred boars bought..... 154
Pure bred sows or gilts bought..... 660
Pure bred hogs sold with county agents' assistance..... 839
Herds of pure bred hogs established..... 190
Feeding demonstrations supervised..... 272

Number of hogs in feeding demonstrations	754
Farmers induced to grow grazing crops for hogs	365
Hogs cared for as advocated by county agents	6,905
Livestock Diseases and Pests:	
Demonstrations in testing cattle for tuberculosis	154
Cattle tested for tuberculosis	4,524
Demonstrations in treatment for hog cholera	163
Animals in hog cholera demonstrations	4,989
Other demonstrations	230
Animals in other demonstrations	1,136
Sheep:	
Pure bred rams purchased	21
Pure bred ewes purchased	40
Pure bred sheep sold with county agents assistance	47
Grade ewes purchased for breeding purposes	156
Flocks started	14
Sheep feeding demonstrations supervised	4
Number of sheep in feeding demonstrations	136
Farmers induced to grow grazing crops	85
Sheep cared for as advocated by county agents	4,488
Poultry:	
Number of poultry demonstrations	174
Poultry grown and cared for according to methods advocated by county agents	30,835
Farms on which poultry management has been improved	1,157
Birds on which poultry management has been improved	161,926
Communities adopting a standard variety	15
Flocks culled	141
Birds in flocks culled	12,619
Birds eliminated through culling	2,680
Farmers induced to raise standard bred poultry	123
Demonstrators induced to practice early hatching	42
Winter feeding demonstrations	71
Birds in winter feeding demonstrations	11,797
New poultry houses	68
Poultry houses remodeled	80
Fertilizers:	
Farmers advised regarding purchase of fertilizers	6,297
Fertilizer demonstrations	136
Acreage in fertilizer demonstrations	2,831
Communities influenced to purchase co-operatively	65
Tons of fertilizer purchased co-operatively	17,286
Amount saved by co-operative purchase	$75,318.81
Farmers home-mixing fertilizer on county agents' advice	470
Manure:	
Farmers induced to care better for farm manure	1,045
Manure sheds built at county agents' suggestion	20
Manure spreaders purchased at county agents' suggestion	56
Silos:	
Number built as a result of county agents' advice	51
Lime:	
Number of demonstrators	168
Acres in lime demonstrations	2,992
Farmers, other than demonstrators, using lime due to county agents' influence	877
Number of acres treated this year	16,879
Farms on which soil was tested for acidity	1,185
Lime sheds constructed	3

Local sources of lime developed	9
Lime crushers installed	8
Lime kilns built	3
Farm and Farmstead Improvements:	
Number of buildings erected	98
Number of farm buildings improved	233
Number of new building plans furnished	99
Number of farm buildings painted or whitewashed	877
Number of home water systems installed or improved this year	99
Total number of such systems in county now	584
Number of home lighting systems installed in county this year	55
Total number of such systems in county now	614
Number of windmills erected this year	83
Number of home grounds improved	241
Number of farm and home sanitary conditions improved	123
Number of homes screened against flies and mosquitoes	46
Number of septic tanks installed	5
Number of telephone systems installed	29
Number of farmers furnished plans and induced to adopt systematic crop rotations	105
Total acreage of such rotations	7,773
Number of new pastures established	147
Total acreage of new pastures established	1,812
Number of old pastures renovated	101
Total acreage of old pastures renovated	1,080
Number of drainage systems established in county	43
Number of farmers induced to drain all or part of their farms	339
Number of such acres drained by tile	2,259
Number of such acres drained by ditch	7,514
Number of farmers induced to remove stumps	58
Number of acres from which stumps were removed	613
Number of farmers induced to terrace their sloping lands	1
Total acres so terraced	10
Number of home gardens planted or improved	415
Number of road improving demonstrations assisted in	19
Number of miles of improved roads resulting therefrom	107.5
Number of farmers who planted cover crops to be turned under	1,545
Number of new implements and tools bought	2,676

Organizations:

Twenty-one of the 23 counties organized into county associations or federations. Number local farmers' organizations, 393. Total membership, 18,781.

Summary of Co-operative Marketing.

SOLD—

Article	*Cars*	*Quantity*	*Value*	*Saving*
Wheat	52		$ 68,640.00	$ 2,496.00
Corn and other Products		5,075 bushels	8,970.00	800.00
Potatoes		33,375 bushels	38,757.00	8,484.75
Cucumbers	170	68,000 bushels	68,981.26	3,400.00
Cantaloupes	205	45,000 crates	82,500.00	18,100.00
Strawberries	811		420.000.00	20.416.00
Sweet Potatoes	83	24,900 bushels	24,900.00	5,880.00
Tobacco		1,024,000 pounds	267,300.00	42,000.00
Wool (as blankets)		60,825 pounds	46,378.65	31,902.60
Farm Animals	56		7,430.00	686.00

*Milk		9,150,000 gallons	2,875,000.00	434,000.00
Miscellaneous	40		14,786.29	3,944.16
TOTAL SOLD	1,417		$3,923,643.20	$572,109.51

*Reported by Carroll, Frederick and Caroline counties only.

Further data which agents could not secure in co-operative sales of milk and tobacco as given by these associations is:

Additional tobacco sold	$ 1,732,700
Additional milk sold	9,125,000
Additional saving	$ 3,171,540

BOUGHT—

Article	*Cars*	*Quantity*	*Value*	*Saving*
Lime	645	1,008½ tons	$ 6,673.32	$ 1,687.13
Fertilizer	796	20,440 tons	445,666.81	76,316.81
Binder Twine	4	106,500 pounds	15,040.00	2,403.00
Feeds	92	1,946 tons	114,519.60	16,877.68
Seeds		113,755 pounds	21,164.23	3,978.79
Seed Potatoes	4	2,120 bushels	3,711.00	2,214.00
Miscellaneous			68,948.84	11,716.91
TOTAL BOUGHT	1,541		$675,723.80	$115,914.32

Negro Work.

Notwithstanding our shortage of funds and the difficulty experienced to retain our good men, we have continued the negro work in the State. Two negro agents are doing splendid work on the Eastern Shore and in Southern Maryland. The agents report having conducted 496 demonstrations in farm crops and live stock. They have visited 1,546 colored farmers and traveled 14,732 miles. Several community exhibits have been held, which have served to increase interest of the farmers in the communities to grow better crops. Some pure-bred pigs were shown by colored boys at the Timonium Fair. The colored farmers are responding to the assistance rendered by these agents in the field.

HOME DEMONSTRATION WORK.

Miss V. M. Kellar, in charge of the Home Demonstration Work, reports that the program carried out in Maryland during the calendar year 1921 has been the most satisfactory in the history of the organization. It has developed by degrees until the people, as a whole, recognize its value, not only to the home, but to the community, the county and the State. There has been an increased enrollment in both girls' and women's clubs. A new interest has been taken in county organizations, fairs, community shows and other phases of the work.

More requests have come to headquarters for help and suggestions the past six months than we have been able to take care of with our

limited forces. The requests have been definite—the people have asked for information for a purpose.

Women agents have been maintained in most of our counties, but we are having difficulty in keeping our good agents for want of adequate funds.

Women's Clubs.

A special effort has been made to organize the rural women into community clubs. Each club works out a definite yearly program which is carried out with the advice and assistance of the Home Demonstration Agents.

Short Courses.

Ten short courses have been held for women the past year. The programs consisted of lectures and demonstrations in food, clothing, millinery, household management, art and health. Thirty girls' short courses were held by the Home Demonstration Agents. This has done much to strengthen club work.

Milk Work.

Milk exhibits have been staged at community fairs and shows. Demonstrations have been given in the use of milk products at various public meetings. Milk bars have become the popular drinking places at all fairs. Milk campaigns have been one of the most important features of the year's work.

A number of feeding demonstrations with the school children under the supervision of the women agents have been conducted in several counties. A large number of children have contested in the essay and poster contests on milk. Special plans are under way for continuing the milk campaigns on the basis of first, the production of clean milk; second, the consumption of more milk; and third, nutrition—the body's need of milk.

Household Management.

In order to save steps, time and energy, a campaign on kitchen re-arrangement has been made the past year. The results cannot be estimated, but many miles of kitchen travel have been eliminated. The work in household management has reached women who are not club members and enlisted their interest in all phases of home demonstration activities.

Clothing Efficiency.

Clothing has been the popular, as well as the major project in this work during the past year. A systematic presentation has been given where color, line appropriateness and textiles went hand in hand with construction.

Many other activities are reported by Miss Kellar as proving the growing interest of the rural women in home demonstrational work. Home improvement, household accounts and budgets, community improvement, food, etc., furnish a fruitful field for rural home development.

Miss Kellar has been ably assisted by Miss Bertha Knight, District Agent and Specialist in clothing and house furnishing, and Mrs. Marion C. Bell, District Agent and Specialist in Household Management. These specialists have greatly aided the agents in the conduct of demonstrations and otherwise guiding them in their work.

Girls' Club Work.

Miss Adice S. Jones Assistant in Girls' Club Work, reports a marked progress in girls' club work during the past year. The work has been so standardized that each agent is carrying on the same type of work. In no previous year has there been so much accomplished in the development of the 4 H. program; that is, in the development of the head, hand, heart and health. There are 225 girls' clubs in the State, with a total enrollment of 2,814. There are at the present time eight county organizations of girls in the State.

The girls come together at regular intervals for their business meeting and rally. The business is conducted according to parliamentary rules. Reports are made of work being done in their home clubs, suggestions and helps are given to each other and to the home demonstration agent as to the needs of their local communities. Many public demonstrations in bread making have been held at Fairs and other public meetings.

Camps.

No other phase of club work has proven more popular and at the same time beneficial to the girls than the 4 H. Camps. Twelve counties during the past summer had camps of their own or with one or more adjoining counties. The 4 H. club program was carried out in each camp. The mornings were given up to instruction. In addition to regular club work, such as bread making, canning and sewing, instructions were given in the following: basketry, millinery, dyeing, making of beads, framing pictures, woodcraft and personal hygiene, including manicuring and care of the hair taught by demonstrations. Lectures on the care of the body were given.

Milk and its value as food was given a place in the food lessons and where possible an abundance of it was served. The effects of this has been far reaching. Not long ago the Specialist was in a home where there were seven children. The mother said that none of the children drank milk until her little 12-year-old girl came

from camp very enthusiastic about milk and urged all to use it, and now she says everyone in the family is drinking milk.

Boys' and Girls' Club Week.

The boys' and girls' club week held at the University of Maryland during the first week of August proved to be the most instructive and inspiring ever held. There were 82 girls present. Until this year the entire trip had been awarded to every individual as a prize trip, but this year there being no funds available except in a few counties, the girls paid their own expenses. Instruction classes in millinery, bread making, furnishing the home and sanitation were conducted during the mornings. The afternoons and evenings were given up to recreation, games and camp fire gatherings.

State and Other Fairs.

The home demonstration department staged a splendid exhibit and successful demonstration at the Timonium State Fair. Nine club girls gave demonstrations in bread making each afternoon of the fair. Similar exhibits and various demonstrations have been conducted by the specialists and agents at most of the fairs and community shows.

County Home Demonstration Agents.

The following home demonstration agents have been employed during the past year:

County	*Name*	*Headquarters*
Allegany	M. Rhea Morgan	Cumberland
Anne Arundel	Georgiana Linthicum (Mrs.)	Annapolis
Baltimore		
Calvert		
Caroline	Edith G. Norman (Mrs.)	Denton
Carroll	Rachel Everett	Westminster
Cecil	Elizabeth V. Hodgson	Elkton
Charles	E. S. Bohannan (Mrs.)	La Plata
Dorchester	Celeste C. Moore (Mrs.)	Cambridge
Frederick	Frances E. Gerber	Frederick
Garrett	Laura I. Henshaw	Oakland
Harford	Blanche Gittinger	Bel Air
Howard		
Kent	Susan V. Hill	Chestertown
Montgomery	Catherine Cowsill	Rockville
Prince George's	Ellen L. Davis	Hyattsville
Queen Anne's	Mary L. Byrn	Centerville
St. Mary's	Ethel Joy	Leonardtown
Somerset	M. Louise Mills	Princess Anne
Talbot	Olive K. Walls (Mrs.)	Easton
Washington	S. S. Garberson	Hagerstown
Wicomico	Clara Mullen	Salisbury
Worcester	Lucy J. Walter	Snow Hill

Local Agent.

Charles and St. Mary's....Leah D. Woodson (colored).....La Plata

Garden Specialist.

Baltimore City.....Adelaide Derringer (Mrs.).....Baltimore City

Miss Kellar and her assistants report the following summaries of their work during the past year:

State Home Demonstration Agent's Activities.

Number of counties organized	20
Number of county agents employed	20
Number of colored workers employed	1
Number of urban workers employed	1
Number of county agents employed full time	18
Number of miles traveled by state agent	11,214
Number of meetings attended by state agent	62
Approximate attendance	7,485
Number of official letters dictated	1,815
Number of talks given by state agent	150
Number of visits to county and urban agents	44

Activities of State Workers.

Number of miles traveled by state workers	38,407
Number of meetings attended by state workers	467
Approximate attendance	26,019
Number of official letters dictated by state workers	2,627
Number of visits to county and urban agents	178
Number of talks given by state workers	266
Number of demonstrations given by state workers	132

Results from Special Questionnaire of Home Dem. Work—Organization.

Number of women's clubs (total enrollment, 3,075)	88
Number of girls' clubs (total enrollment, 2,814)	225
Number of community clubs (total enrollment, 5,128)	78
Number of county federations of women's clubs	10
Number of county federations of girls' clubs	8
Number of short courses held for women	14
Number of Farmers' Institutes held past year	25
Number of county fairs held past year (estimate number of exhibits, 10,862)	13
Number of community fairs held past year	49

Outstanding Demonstrations.

Number of style shows held	7
Number of clothes clinics held	38
Number of short cuts in sewing given	155
Number of millinery demonstrations given (estimate number hats made, 761)	195
Value of saving from clothing demonstrations	$5,050.25
Value of saving from millinery demonstrations	$2,417.40

Value of demonstration in dyeing given	$ 516.19
Value of dress forms made	$2,403.00
Number of demonstrations in house furnishings	33
Number of food demonstrations	287
Number of modern conveniences or labor-saving devices installed due to county home demonstration agents' influence	376
Number of girls enrolled in poultry work	904
Number of girls completing poultry work	313
Percentage completing poultry work	33.2
Number of girls enrolled in garden work	432
Number of girls completing garden work	346
Percentage completing garden work	80.
Number of girls raising 1/10 a. gardens	78
Number of girls raising 1/20 a. gardens	98
Number of girls raising smaller gardens	145
Number of girls completing a year's sewing work	1,134
Total number of girls completing demonstrations	1,790
Total number of girls enrolled in clubs	3,597
Percentage of all demonstrations completed	49.8
Number of jars of products canned by girls	20,940
Number of steam pressure canners and other labor-saving devices installed through girls' efforts	44
Number of club rooms established	7
Number of equipments in school	70
Number of girls completing 1st year work	464
Number of girls completing 2nd year work	236
Number of girls completing 3rd year work	50
Number of girls completing 4th year work	8
Amount of money contributed by individuals, banks, organizations, etc., to girls' club work	$1,071.79
Number of girls reading books suggested by and obtained from the Extension Service	167
Report on interior and exterior decoration done by girls	75
Number of picnics, plays, camps and entertainments given by girls	66
Amount of money raised by girls	$1,429.39
Amount of money made in counties by poultry club girls	$3,815.96
Amount of money made by garden club girls	$ 292.47
Number of short courses conducted by girls	30
Number of visits made to club girls' homes by home demonstration agents	1,248
Number of girls keeping expense accounts	151
Number of girls giving bread demonstrations	45
Number of bread demonstration teams	41
Number of county fairs where bread demonstrations were given	5
Number of girls giving other demonstrations	39
Number of club meetings conducted publicly	43
Number of clubs making exhibits at county fairs	122
Number of girls exhibiting at fairs	1,114
Number of county organizations of girls	8
Number of local leaders secured to aid in club work	37

Boys' Club Work.

Mr. E. G. Jenkins, State Boys' Club Agent and Mr. P. W. Chichester, Assistant Agent, report splendid progress in the boys' club work.

Mr. Jenkins reports that while there are many factors entering into boys' club work, it is universally agreed that the most important ones by which development of the work may be judged are increasing number of boys reached by county agents and increasing percentage of completed demonstrations of economic value by those so reached.

The report shows an advance of 30% in enrollment and an advance of 37% in complete demonstrations this year over last. In 1920 we reported 45% of enrollment completed. This year we have almost 50% of completions. Last year our valuation per completed demonstration was $59.97 and notwithstanding lower prices for farm products, we have this year a value of $72.27 per completed demonstration.

One of the important aims, that of holding the older boy in touch with the Extension Service and saving him to the vocation of farming, has met success through our advanced corn and potato demonstrations and pure bred calf and pig demonstrations. Three very important results are noted in these activities. Club boys are demonstrating that it pays to fatten better bred swine for the pork barrel and that carefully selected and tested seed corn and thoroughly treated seed potatoes of proper type, produce marked increase in yields.

Dairy calf work is having an auspicious start. The mass attack Harford county has made upon this project with 25 calves purchased at an average cost of $169 and the showing of most of these calves, together with several from other counties, at the Timonium Fair has awakened lively interest among farm boys and adults.

These activities indicate that club work is becoming a big factor in better agriculture and improved live stock and that the dignity and mature value of club work is being recognized.

Dairy calf club exhibits at Timonium were universally applauded and it is said that our display of eighty-nine pure bred swine has seldom been equalled in any state club exhibit. These two exhibits alone carried away two thousand of the four thousand dollars awarded club work by the fair association.

Nearly two hundred boys and their leaders were housed at the camp at this fair.

The Harford county fair displayed calf and pig club exhibits even larger than the State fair, and in addition had exhibits of crops in booths erected and arranged by club boys in co-operation with club girls who entered the products of their club demonstrations.

In every county but one where county fairs were held boys' club exhibits were notable features. Five counties showed club boys' pure bred swine for the first time. Excellent poultry displays were shown in several counties, Carroll deserving special mention.

Unusual increase in community exhibits was observed.

It is significant that every club exhibitor in county and state fairs has been required to submit his record book with his entry.

Won European Trip.

Maryland won the greatest prize ever offered to any boys' work organization in the world when the Cecil county judging team consisting of Warren Rice, Joseph Glacken and George Worrilow, coached by County Agent W. C. Snarr, took first place at Atlanta, Ga., and will go to the Royal Stock Show in England as an award from the Southeastern Fair Association.

This team took first place over fourteen other county teams at our State fair and with the help of Kent Price of Centreville, won fifth place at the National Dairy Show. Maryland gave systematic instruction in dairy judging to many club boys this year.

Ninety-three club members attended a most successful club camp in Harford county in August. Dorchester county also had a very helpful camp.

Ten inspiring county-wide club rallies were held in conjunction with the girls' club organization and there have been scores of club rallies, trips, livestock judging events, all most helpful and significant. The co-operation we have enjoyed with the girls' club organization has been most helpful.

Five counties now have effective county club organizations.

State Club Week.

State Club Week was even more instructive and interesting than last year. Demonstration instructions, games and inspirational meetings and the trip to Washington and Mt. Vernon were carried out about the same as last year. Secretary Wallace addressed the group at the U. S. Department of Agriculture and greeted each person present.

The organization of the Beta Chapter of All Stars for older members gives promise of much assistance in holding the older youth.

Work among negro boys has gone forward. Special mention must be made of the fact that of the fifteen pure bred pig club members, every one is successfully carrying on his work. Every note was paid by the Mardella Club boys six months before due.

Summary of Boys Club Work.

Progress may be observed in the following summary of the most important factors submitted by the specialists:

1. Increased enrollment.
2. Increased percentage of completed demonstrations.
3. Reduction of supervision cost.
4. Increasing number of club members who have actually demonstrated better methods and practices.

5. Advance in standard demonstrations.
6. Larger number of older members holding interest and giving leadership.
7. Rapidly increasing interest shown by fair associations, commercial concerns and individuals.
8. Nation-wide publicity through our winning judging team and our pre-eminent state fair exhibits.
9. Pronounced improvement in character of work among colored boys.
10. Definite influence resulting in more club members entering college.
11. Our inspirational activities in short courses, camps, rallies, picnics and personal contacts have produced an appreciable effect upon the development of character shown in conscientious demonstration work, helpful leadership, club loyalty, club spirit, thrifty saving; all with the aim of better citizenship.
12. Intimate co-operation with girls' club organization.

Statistics of Club Activities.
1921.

Number of boys enrolled in clubs	2,112
Number of miles traveled by state boys' club agent	10,772
Number of miles traveled by assistant state boys' club agent	10,477
Number of meetings attended by state agents	100
Approximate attendance	18,002
Number of meetings attended by assistant state Boys' club agent	135
Approximate attendance	3,108
Number of visits to agents	162
Number of official letters	2,662
Number of demonstrations visited	300

Totals—Maryland Boys' Club Work—1921

White Boys.

Enrolled	1,718	
Complete reports	786	
Value of complete reports		$ 35,676.41
Estimated value of demonstrations not reported		31,644.50
Total value		$ 67,320.91

Negro Boys.

Enrolled	394	
Complete reports	263	
Value of complete reports		$ 6,628.50
Estimated value of demonstrations not reported		1,866.00
Total value		$ 8,494.50

Grand Totals.

Enrolled	2,112	
Complete reports	1,049	
Percentage of complete reports	49.67%	
Value of complete reports		$ 42,304.91
Estimated value of demonstrations not reported		33,510.50
Total value		$ 75,815.41

Averages.

Average yield of corn per acre	59.78
Average yield of potatoes per acre	144.23

Percentage of completed demonstrations, 49.67%.

AGRONOMY.

Mr. F. W. Oldenburg, Specialist in Agronomy, reports the principal farm problems attacked during 1921 as follows: 1. Corn root rot demonstrations; 2. Lime demonstrations; 3. Pure bred corn demonstrations; 4. Boys' club work; 5. Other farm crop demonstrations; 6. Miscellaneous.

1. *The corn root rot work* was conducted in co-operation with the specialist in Pathology and Experiment Station workers and the county agents. The disease has caused considerable loss in the State. The plan called for at least one demonstration in seed selection in each county. Twenty-four demonstrations of this character have been conducted and the results given in the Specialist's report. Every effort is being made to show the corn growers the advantage of carefully selecting seed to prevent injury from this disease.

2. *Lime Work.* With a view of demonstrating the use of different forms of lime, the Specialist, in co-operation with the soils department of the Experiment Station and the Eastern Lime Bureau and the county agents, has arranged a definite lime demonstration in every county. These demonstrations are arranged to run for at least one rotation. Splendid results are being secured from these carefully planned tests.

3. *Pure Bred Corn.* Special work has been conducted throughout the State to encourage the growing of pure bred corn. The two varieties recommended for the more fertile farms are the Johnson county White and the Reids Yellow Dent. Twenty-five farmers exhibited corn at the International Grain and Hay Show with the result that seventeen of them won prizes. This illustrates what can be done in improving our breeds of corn in the State.

Miscellaneous.

The Specialist has assisted in promoting the boys' club work in corn growing. Demonstrations were arranged with the club leader and county agents for club boys in all the counties. Special instruction was given the boys at the short courses and camps and field meetings. Other work included demonstrations in wheat and other small grains, alfalfa, soybeans and other legumes, fertilizer and green manure.

Mr. Oldenburg co-operated with Prof. Metzger of the Experiment Station in conducting a wheat survey of the State. Particular attention was paid to water and garlicky contents. A full report of this survey will be made later. He assisted in getting up an exhibit of corn for the Harrisburg Show, where Maryland again won the sweepstakes.

There has been more constructive work conducted by the specialist and agents in agronomy work this year than ever before.

Definite programs of work were outlined at the beginning of the year and carried out with success.

The Specialist submits the following summary of his activities:

Addresses at Farmers' Institutes and other farm meetings		78
Number present		6,733
Field demonstrations, including those with boys' clubs		13
Number present		215
Demonstrations visited		179
Other visits, elevators, millers, grain buyers, etc		60
Visits to county agents		93
Farm products at county and community fairs		30
Other meetings attended		10
Miles traveled by train	10,365	
Miles traveled by auto	5,591	
Total miles traveled		15,956
Letters written, approximately		500

Animal Husbandry.

The extension work in Animal Husbandry has been seriously interfered with, by the change of Specialists during the past two years. Unfortunately for the work, Mr. G. H. Bedell resigned as Specialist last March. Taking up the work in October 1920, Mr. Bedell had arranged a very constructive program of work in the various phases of Animal Industry. He resigned to accept the position of Eastern Editor of the National Stockman and Farmer. During the time Mr. Bedell was with the service he planned the marketing of wool through its conversion into blankets. In all, about 60,825 pounds of wool were converted into blankets by the farmers of the State at a value of approximately $46,378.65. The wool marketed in this manner netted the growers an average of about fifty cents per pound in the grease. Specialists and county agents presented the plan to the farmers' organization. A committee of farmers arranged the details.

Mr. Bedell assisted in the institute and short course work throughout the State during the winter months. He aided in the supervision of agents and otherwise did splendid work in encouraging demonstration work in Animal Husbandry projects. We regretted to have him leave the service.

We were unable to secure a successor until July 1st, when Mr. B. E. Carmichael was appointed. Mr. Carmichael has had a wide experience in Animal Husbandry work and we hope that Animal Husbandry projects may be launched with the county agents and carried on with no further interruption in personnel.

Since July 1st, Mr. Carmichael reports spending most of the time getting acquainted with conditions in different parts of the State so as to be able to make intelligent plans and recommendations for Extension work with livestock.

The principal farm problems which have been considered are those which center around (1) the use of better livestock and (2) better methods in the production of animals and their products. In a number of counties the Specialist reports much interest is expressed in the matter of temporary pasture demonstrations in pork and sheep production and it is planned to have several forage demonstrations this coming year.

Mr. Carmichael reports plans under way to push better sire campaigns and at the same time to urge better methods in feeding and management. The promotion of—first, general information relative to the adaptability of different types and breeds of farm animals—second, a knowledge of the feed and care requirements of farm animals in order to provide for abundant economical and high class production—and third, an appreciation of the need for controlling animal diseases and parasites will serve still further to improve the livestock industry of the State.

The Specialist reports the following summary since July 1st:

Number of counties visited		22
Number of farm visits made		174
Number of conferences with county agents		22
Number of meetings addressed		10
Number of estimated attendance		1,335
Number of fairs judged, livestock		9
Number of miles traveled by railroad	3,390	
Number of miles traveled by automobile	2,331	
Number of miles traveled by boat	178	
Total miles traveled		6,199

Hog Cholera Control.

The control of hog cholera has proceeded along similar lines, as heretofore reported. The county agents and specialists have co-operated with Dr. I. K. Atherton and his associates, Dr. Cass, Dr. McLaughlin and Dr. Wright, in aiding as far as possible in reducing losses to a minimum.

A summary of the hog cholera work, conducted in co-operation with our agents, is submitted by Dr. Atherton, Inspector in Charge:

Number of meetings held	32
Number in attendance	3,521
Number of vaccination demonstrations given	23
Number attending vaccination demonstrations	289
Autopsies	173
Number of cases diagnosed:	
Cholera	353
Necrotic Enteritis	4
Pneumonia	7
Tuberculosis	1
Other diseases	236
Number of hog cholera warning cards sent out	10,000
Number of farms visited	3,333

Number of persons given personal warning of outbreaks or instructions regarding hog cholera	8,899
Number of miles traveled	47,301

Horticulture.

Mr. S. B. Shaw, Specialist in Horticulture, reports good progress in the horticultural demonstration work as a whole. On account of late frosts, the fruit crop of the State has been severely cut. This condition prevented securing data on many of the orchard demonstrations.

The specialist reports the principal problems attacked as follows:

1. Orchard Management Demonstration.
2. Demonstrations in various Orchard Operations.
3. Community Short Courses.
4. Organization of Fruit Growers.
5. Marketing (Grading and Packing Fruit and Vegetables).

Demonstrations in Orchard Operations.

Five fertilizer demonstrations were conducted involving about 35,000 trees. Four cover crop and culture demonstrations involved about 15,000 trees. Several pruning demonstrations were conducted by the Specialist. On the whole, the work in orchards was unsatisfactory on account of there being little fruit. The demonstrations, however, showed the advantage of using proper fertilizer and especially following clean culture methods demonstrated the superior condition of orchards in the demonstrations over those receiving the usual treatment.

Community Short Courses.

The Specialist, in co-operation with others of the service, conducted several short courses dealing with Horticultural subjects. In one county eight community organizations grouped together to hold four courses. This work, when properly organized by the county agent and local people, has proved of immense value to a community.

Grading and Packing Fruits and Vegetables.

For several years the cantaloupe growers of Maryland have been confronted with rather serious problems in the disposition of their crop at remunerative prices. This condition has been brought about largely by their not harvesting their crop at the proper state of maturity. Through the efforts of county agent Cobb and local authorities, a local selling organization was developed at Salisbury. Mr. Shaw and Mr. W. R. Beattie, U. S. Department of Agriculture, arranged to visit that section and conducted demonstrations in picking, packing and grading. Visits were made to a large number

of growers. All were urged to delay harvesting the cantaloupes four days. As a result of this combined work, the crop of cantaloupes in that section was greatly enhanced and it is estimated that a gain of $18,000 was secured for the growers. Similar work was conducted at other points but with not the same degree of success. It is planned to try to have the growers throughout the Peninsula practice better grading and packing of this important fruit.

Miscellaneous Activities.

The Specialist is conducting a survey of orchard bearing trees in the State and also those of non-bearing age, with a view to having complete and accurate records of the orchard interests of the State. He assisted in making horticultural exhibits at the State and county fairs. As Secretary of the State Horticultural Society, Mr. Shaw has rendered splendid service. Twelve monthly news letters have been issued to the growers, containing information relative to estimates of the crops and other timely information. A successful summer meeting of the Society was held in Baltimore county, July 28th. The Specialist submits the following summary of his activities:

Number of orchard project demonstrations	12
Field meetings and other demonstrations	43
Meetings addressed	35
Visits to orchards and truck farms	94
Number of orchards and farms visited	67
Number of counties visited	18
Number of persons attending field demonstrations	1,130
Number of persons attending meetings addressed	1,977
Number of interviews on horticultural subjects	138
Number of county agents interviewed on horticultural work	23
Number of conferences	37
Number of first-class letters written	2,461
Number of circular letters issued	9,317
Number of persons receiving circular letters	650
Total number of persons reached by direct contact	6,423
Total number of persons reached indirectly	178,000
Total number of units (trees) affected by work	713,222
Total number of miles traveled by rail	12,530
Total number of miles traveled by auto, boat, etc	5,331

VEGETABLE AND LANDSCAPE GARDENING.

Mr. W. R. Ballard, in charge of this project reports that a plan to demonstrate the practicability of developing the trucking industry in the Southern Maryland counties and the early planting of tomatoes to increase canning crop yields are the two projects aimed at in vegetable gardening. In the Southern Maryland project, the plan is to concentrate on four crops, namely—asparagus, Irish potatoes, sweet potatoes and early tomatoes. Records are to be secured giving cost of production and returns per acre.

The Maryland Experiment Station has proven in tests running over a number of years, that early grown plants of canning varieties of tomatoes out-yield those grown in ordinary seed beds. One-acre plots will be grown in the important tomato growing sections. The Specialist has devoted considerable time to general work in gardening. Ninety-eight gardens and eight community exhibits of vegetables were judged.

The major part of the specialist's time the past year has been devoted to landscape work. The demand for assistance has been greater than he could meet. During the year, in co-operation with the county and home demonstration agents, nineteen demonstrations on home grounds and seventeen demonstrations on school grounds have been undertaken. Plans have been designed and planting tests made out for these demonstrations. When a demonstration is undertaken, a preliminary survey of the grounds is made. From this data thus secured, a design is worked out and a blueprint, with letter of instructions is furnished the demonstrator and co-operating agent.

The specialist has delivered many lectures, aided in making exhibits at fairs and issued several leaflets on his work. Two bulletins have been published in co-operation with Prof. Thurston.

The following summary may be given:

Number of lectures on vegetable gardening	8
Number of estimated attendance	750
Number of gardens judged	28
Number of community shows judged	8
Number of lectures in landscape gardening	42
Number of estimated attendance	2,150
Number of agents visited	19
Number of articles contributed to press	18
Number of miles traveled by train	4,600
Number of miles traveled by auto	3,000

Prof. E. C. Auchter, head of the Department of Horticulture, has done considerable extension work by advising with the specialists and county agents and visiting a large number of fruit growers and farmers. He reports conducting two orchard fertilizer demonstrations and a truck crop demonstration in St. Mary's county. He has held several conferences with members of the Department of Horticulture for the purpose of organizing and co-ordinating the work of all Horticultural workers. Prof. Auchter reports having visited 20 farms, delivered 10 lectures to 1,000 people. He has prepared and published two fruit pamphlets, one on varieties of orchard fruits recommended for Maryland and one on varieties of small fruits recommended for Maryland.

Dr. H. A. Jones of the Vegetable Department has also aided the truckgrowers as far as his regular duties would permit. He has conducted some demonstration work in showing the value of plant-

ing tomatoes earlier and the use of cord frames in producing healthier plants. He made a survey of the sweet potato industry in Wicomico county. Dr. Jones serves as Secretary of the Maryland State Vegetable Growers' Association.

Dairy Husbandry.

Mr. G. E. Wolcott served as specialist in Dairy Husbandry until October 1st, when he resigned to enter a private business. Mr. Wolcott reports having attacked three principal problems; 1 The organization of cow testing associations; 2 the organization of bull clubs and 3 the introduction of pure bred bulls.

Four new cow testing associations were organized as follows: Allegany county and Baltimore county Association and two associations in Cecil county. One bull club was organized in Queen Anne's county. Twenty-seven pure bred bulls were introduced into herds in the State. Many others were introduced through the efforts of the specialists and county agents but no report has been made by the purchasers.

The specialist addressed thirty-seven meetings with an estimated attendance of 1,690. He made 241 farm visits and assisted the county agents in various dairy projects.

Mr. Wolcott pushed the better sire work and assisted in the boys' club judging contests. A total of fifteen dairy judging contests were held. A census of pure bred bulls was begun during the summer. Returns from Talbot and Allegany counties show that 40 per cent. of the bulls in use are not pure bred.

Mr. J. A. Conover has been appointed specialist in Dairy Extension beginning work November 1st. His time has been devoted to getting acquainted with the dairy conditions in the State. Mr. Conover has had a very wide experience in all phases of dairy work and it is hoped to push this work in the State very vigorously during 1922.

Miscellaneous Dairy Work.

Mr. J. A. Gamble, head of the Dairy Department of the University, also serves to conduct as much extension work as other duties will permit. Most of his time has been given to phases directly relating to milk marketing in the three cities supplied by Maryland dairymen—Baltimore, Washington and Philadelphia. The effort of the service has been to assist these three groups of dairymen in the perfection of legitimate organizations to the end—first, that methods of handling during production might improve; second, the cost of production be lowered through better feeding and breeding; third, that milk may be more adequately protected from deterioration while enroute to market, and fourth, to establish in these mar-

kets, grades based upon quality so that those supplying quality in milk will receive an increased price. In a word, our effort has been to assist our dairymen into a position where they can produce better milk so economically that it can be sold in competition at a profit. A large amount of time of the specialist has been devoted to the Baltimore group, which is composed of about 3,000 shippers into that market.

Baltimore Dairy Council.

The Maryland Dairymen's Association and the Baltimore dealers, in co-operation with other interested persons, have organized the Dairy Council and provided a fund of $20,000 to be used in carrying on educational and publicity work with a view of increasing the consumption of milk. This work has been carried on in the public schools and at public meetings with demonstrations showing the relationship of milk to healthfulness and its economy when considered from the food value standpoint. Members of the service have assisted the manager, Mr. E. A. Brown, where possible in the promotion of this project.

Undesirable Milk.

Thousands of gallons of milk have reached the Baltimore market sour, during the summer months in the past. This sour milk has been returned to the farmers at their expense. As many as 2,000 gallons have been returned on some days. It is estimated that the yearly loss would total around $50,000. To stop this economic loss, a study of the conditions was made the past summer, in co-operation with President Harry and Secretary Heaps of the Dairymen's Association.

The condition of the milk when it left the farm, its condition when delivered by the transportation agent and its condition on reaching the milk plant of the dealer have been determined with a view of getting these three controlling agencies to instigate practices which will prevent milk deterioration. A conservative estimate would indicate that the souring of $25,000 worth of milk was prevented during the past summer. This work has very materially contributed to the improvement of milk coming into Baltimore City.

Miscellaneous.

The State Dairymen's Association is now constructing a surplus plant in Baltimore City which will greatly facilitate the proper marketing of surplus milk. The specialists of our service have aided the officers of the association as far as possible in planning this plant.

A similar effort has been made by the specialists, county agents and others in organizing a surplus plant and otherwise assisting the Maryland and Virginia Milk Producers' Association comprising the dairymen of the State shipping milk into Washington. The plant is now in operation and has handled as high as 6,000 gallons of milk per day. We have also rendered as much service as possible to the large number of dairymen shipping milk to Philadelphia. The Inter-State Milk Producers' Association is well organized and has been the means of greatly aiding the 3,000 dairymen on the Eastern Shore.

Advanced Registry Work.

One of the services taking much time of the specialist and assistants is that of advanced registry supervision. This work was carried on among the breeders of pure bred Guernsey, Holstein, Jersey and Ayrshire cattle. During the year ending December 1, 1921—2,239 cows were supervised for Advanced Registry on 93 different farms. This number has included 679 Guernseys, 608 Holsteins, 878 Jerseys, 26 Ayrshires and 48 Shorthorns.

Creameries in Southern Maryland.

For several years, farmers in Southern Maryland have been interested in the development of dairying, in their sections. This desire has been fostered by the county agents in these sections with a result that a series of meetings were held at Brandywine, Waldorf, and La Plata, for the purpose of establishing a creamery in that section. After a great deal of discussion, Waldorf was selected as a site, plans drawn, and a movement is now on foot for the construction of the creamery.

Present Situation.

The present dairy marketing situation is in a fairly satisfactory condition. The industry is organized into groups. The dairymen are running their own business. Through organization prices approaching the cost of production have been secured by the producers. While there is yet over $14,000,000 worth of dairy products, principally butter and cheese, imported into the State, nevertheless, with present plans for development, we hope that our dairy interests will be in position to gradually reduce this importation.

The Extension Service has had splendid co-operation from the dairy interests and it is hoped that greater progress will be made in dairy Extension work in the future.

POULTRY EXTENSION WORK.

Mr. H. W. Rickey, specialist in charge of this project during the past year, resigned to engage in a private business November 7th.

Of all the different projects, it is probable that we have been able to secure more definite results in poultry demonstrations than in any other. The specialist, in co-operation with the agent, has arranged during the year for a large number of demonstrations in the production of winter eggs and in the culling of fowls. More than 100 winter egg demonstrators sent in weekly reports through the county agents of the results by following the Specialist's specific directions in the feeding and care of the flock. Culling demonstrations were conducted at many community short courses, fairs and other public gatherings throughout the season. At these demonstrations farmers and their wives were shown what constituted good standard types of various breeds for the production of eggs and other purposes. It was unfortunate that we would have a break in the Specialist's work and it is hoped that we may be able to secure a man to conduct the Poultry Extension Work in the spring.

Agricultural Engineering.

Mr. Ray W. Carpenter serves as specialist in Agricultural Engineering. He is employed for teaching and is only to give a limited service to our agents. However, he reports having conducted eleven drainage demonstrations, two in rural architecture and two in farm water systems.

Mr. Carpenter has visited eleven county agents and advised with farmers regarding various farm engineering problems. He has addressed fifteen farmer's meetings with an attendance of 970.

Mr. Carpenter reports a growing interest among farmers in farm machinery and other engineering problems. It is hoped that funds will permit a full-time specialist in this important field of work.

Rural Organization and Marketing.

In addition to assisting in the administration work of the service, Dr. Bomberger is in charge of this project. The following outline of work to be conducted under Rural Organization was submitted in January, 1920:

1. Organization of rural communities into granges, community clubs, farmers' clubs, school associations, etc., as conditions may require.
2. Federation of existing organizations in any community into a Community Council where conditions may justify such a plan.
3. Federation of all communtiy organizations of a county together with county organizations, such as horticultural associations, breeders' associations to be affiliated with the Maryland Agricultural Society, with representation in the Council of the Agricultural Society.

4. Preparation in co-operation with county agents and the respective organizations of programs of work for community organizations and county federations or associations.

5. Co-operation in community celebrations, community short courses, community shows, etc.

Progress Made.

Dr. Bomberger reports progress as follows: At the beginning of 1920 only four county federations had been formed. At the end of 1920 federations had been organized in sixteen of the twenty-three counties of the State.

During 1921 the work was prosecuted along the same lines with the result that at this date, December 1, 1921, all the counties of the State with the exception of two have county federations formed, and the Federations have been affiliated with the Maryland Agricultural Society, which is the State-wide Federation of Agriculture and community organizations. There are unusual conditions existing in Garrett and Calvert counties, the only two counties not yet organized into County Federations, which have hitherto prevented the completion of the organization in those counties. It is hoped however that conditions will so change that in the near future we can have a county organization affiliated with the Maryland Agricultural Society from each of these two sections of the State.

The County Federations or county organizations have become highly influential factors in the determination of matters relative to rural welfare of the counties and of the State. At their regular meetings questions relating to agriculture, home demonstration work, roads, schools, health, recreation, marketing, farm produce, purchasing farm supplies, transportation, rural telephone rates, questions relating to agriculture and the general welfare of the rural sections are discussed and acted upon. There are now affiliated with the County Federations about 393 local or community organizations of rural people. We believe fundamentally in the organization of the community. We feel that rural progress will be based largely upon the activities of the people in any given community. It is for that reason that the policy of our service has been to encourage community organizations, whether they be of the grange, community club, or other similar association of people.

The Maryland Agricultural Society is formally affiliated with the American Farm Bureau Federation; thus, the members of our various local and community organizations have a direct representation in this national organization. The society has recently made plans for putting its membership upon a dues basis to comply with the rules of the Federation. While this will cause some little change in the organization of some of the counties, this problem is now in the process of solution.

As the Grange is an influential organization of the State, it has been the policy of the Extension Service to co-operate in every way

with the officers of this organization. County Agents and Home Demonstration Agents in the several counties attend Grange meetings, frequently taking part in the programs, and co-operate with the members of the Grange in carrying on the demonstration work. Nearly all of the Granges organized during the past year were formed by the active co-operation of the members of the Extension force. In most of the counties the Granges are maintaining their own county organizations; also affiliating individually and in a great many cases collectively with the County Federations, and participating in the general work of such county organizations.

The Agricultural Society continues to co-operate with the National Board of Farm Organizations and with the National Milk Producers' Association, giving such assistance as it can in promoting the good work these organizations are doing.

Taking the situation as a whole, the status of rural organization in Maryland is fairly satisfactory. The plan of Federation permits of co-operation among organizations of different types without causing the surrender of individuality of any unit. Such a plan minimizes friction and develops team work.

Much remains to be done in impressing upon all of our farmers the need of co-operation in an organized way in many of the communities and counties of the State, but ground work has now been laid for a really effective and efficient organization of the rural people of this State.

Marketing.

The specialists report splendid progress in co-operative marketing in the State. At the annual meeting of the Maryland Agricultural Society at Salisbury, Md, in December, 1920, there was adopted a State marketing program. The primary purpose of this marketing program was to formulate certain sound principles for the guidance of co-operative activities connected with the marketing of farm products and the purchase of farm supplies. A special marketing committee was appointed to co-operate with local and county farmers' organizations to promote these aims. About the same time the State Grange at its annual meeting at Frederick appointed a committee to co-operate with other committees in pushing the marketing program.

The most immediate results appeared in the field of co-operative purchasing of farm supplies. In practically every county of the State local or county organizations made plans for the purchase of such supplies as fertilizers, coal, grass seeds, etc. Reports available to date show that a total of $67,523.80 worth of such supplies was purchased co-operatively by farmers during the year 1921. The direct saving resulting from these transactions is estimated at $15,914.32, while the indirect result was to develop sentiment among

farmers favorable to the organization of a state-wide purchasing corporation. Accordingly plans were formulated for such an agency, and on October 27th, representatives from every county of the State except two, met in Baltimore City and organized the Agricultural Corporation of Maryland. The Specialist in marketing was in conference with the Special Marketing Committee of the Agricultural Society and rendered every possible assistance in preliminary plans.

Marketing Farm Products.

The specialists and county agents have been especially active in promoting the co-operative sale of farm products. This problem naturally goes slow on account of lack of standards. Dr. Bomberger reports that substantial progress has been made during the year in the marketing of farm crops. The Maryland State Dairymen's Association, the Maryland and Virginia Milk Producers' Association and the Inter-State Milk Producers' Association supplying respectively the markets of Baltimore, Washington, D. C., and Philadelphia have continued to grow during the year, until, at the present time, a very high percentage, probably 80 per cent. of all the fluid milk produced in this State for market, estimated at $10,000,000 to $12,000,000, is handled by one or other of these co-operative dairymen's organizations.

The Maryland Tobacco Growers' Association is also growing stronger and more efficient in its handling of the tobacco grown by its members. An average crop is valued at about $8,000,000 to $10,000,000. The membership is increasing steadily and it is now recognized as a permanent agency in the marketing field.

In Wicomico county during the past year through the co-operation of the County Agricultural Agent and the Chamber of Commerce of Salisbury, there was established a Farmers' Produce Exchange, which was successful in marketing the strawberries, cucumbers, cantaloupes, potatoes, sweet potatoes, etc., of a large number of farmers of Wicomico who are members of the organization. There were some faults of management but the work for the season as a whole was very gratifying.

In Washington county, under rather unusual circumstances, a Farmers' Co-operative Stock Company has during the past four months been actively engaged in marketing of wheat for its members. To date the Association has been very successful.

Without attempting to enumerate all of the examples of co-operative activity in the State it is sufficient to say that never was there more widespread interest in co-operation both in selling and in buying among Maryland farmers than is evidenced at the present time. Friends of the farmer are expending their best efforts to prevent unwise exploitation by radical enthusiasts of this very

natural desire on the part of the farmers to improve marketing conditions.

We hope that the present Legislature will provide more adequately for carrying forward work on marketing information, and standardization of grades and packages, which is so needed in the State.

The Specialist submits the following summary of his work:

Meetings attended		131
Attendance at meetings		13,996
Average attendance		107
Addresses delivered		61
Visits to agents		57
Letters dictated		3,115
Number of miles traveled by auto	3,469	
Number of miles traveled by rail	8,847	
Total miles traveled		12,316

Entomology.

Mr. E. N. Cory, State Entomologist, serves as Specialist in Entomology with Mr. W. C. Travers as assistant. Only a limited amount of Smith-Lever funds is devoted to this project. Mr. Cory reports that the most important Extension Work considered is the further demonstrating of the control of the curculio and brown rot on peach and the coddling moth, together with the various diseases of the apple.

The severe late spring freeze killed the fruit in most of the demonstration orchards. The most difficult work in connection with the orchards this year was to make the growers realize the necessity of continuing their spraying program in order to protect their crops against an increase of insects and disease another year. Mr. Cory submits the following summaries of his work and Mr. Travers which show the large number of demonstrations conducted in cooperation with the county agents.

Summary of Work by Mr. Travers.

Miles traveled by rail	10,680	
Miles traveled by boat	1,204	
Miles traveled by hired auto	1,720	
Miles traveled by own car	350	
Miles traveled by bus	2,600	
Miles traveled by car for which no charge was made	10,240	
Total	26,794	
Orchard and farm visits made		1,592
Apple and peach demonstrations conducted		36
Strawberry weevil control demonstrations		12
Strawberry beetle control demonstrations		1
Control of bean aphis demonstrations		7

Control of tomato aphis demonstrations	5
Control of cabbage aphis demonstrations	4
Control of cantaloupe aphis demonstrations	4
Nursery and greenhouse inspections	94
Address at farmers' meetings and community clubs	31
Demonstrations in pruning	17
Demonstrations in fumigating	3

Summary of Work By Mr. Cory.

Meetings		15
Total attendance estimated		773
Lectures and addresses		15
Fairs—preparation and staging exhibits—judging		5
Conferences attended		20
Nurseries inspected		10
Farm visits		40
Demonstrations—		
Terrapin scale Black peach aphis Peach tree borer Cucumber beetle Cucumber aphis Tomato flea beetle Tobacco flea beetle Angoumois grain moth Indian meal moth Granary weevils Bee manipulations	Total demonstrations	21
Fumigations		5
Correspondence		4,043
Miles traveled		4.533
Press articles, bulletins, circulars, etc		10

Plant Pathology.

Prior to January 1st, Mr. C. E. Temple, who was Extension Specialist, was transferred to college work. He was only able to devote a small part of his time to Extension and State Horticultural departments activities. Mr. Temple continues as State Pathologist and assists in planning the pathological work. Dr. R. A. Jehle was appointed Specialist in Plant Pathology January 1st and the following report is largely his work, in co-operation with the county agents.

The principal problems attacked in Plant Pathology Extension are as follows:

1. Demonstrations in the control of cereal diseases.
2. Demonstrations in the control of sweet potato diseases.
3. Demonstrations in the control of Irish potato diseases.
4. Demonstrations in the control of pea root-rot.
5. Demonstrations in the control of cantaloupe and cabbage diseases.
6. Demonstrations in the control of orchard diseases.

Corn Root-Rot.

The corn improvement demonstrations were conducted in co-operation with the agronomists and county agents. The Specialist reports conducting 21 demonstrations, reaching directly or indirectly 750 growers with the result that the demonstrators observed that the corn selected for freedom from root-rot came up better, with a better and more even stand and produced a better yield, than unselected corn.

The corn root-rot disease is annually causing severe losses to the growers of sweet and field corn in Maryland. The estimated loss from this disease in Maryland during the year 1920 was 5 per cent. of the crop or approximately 1,372,000 bushels, valued at $1,960,400. The above demonstrations were conducted in Cecil, Calvert, Dorchester, Frederick, Harford, Prince George, Somerset, Talbot, Wicomico and Worcester counties. It is hoped to extend this character of work during 1922.

Control of Sweet and Irish Potato Diseases.

There are a number of serious diseases, such as Black Rot, Stem Rot or Wilt and Foot Rot which are transmitted with sweet potato tubers and plants. In order to assist in the control of these diseases, a number of sweet potato growers in Dorchester and Wicomico counties were induced to grow high-grade seed for sale. There were ten demonstrations affecting 1,000 acres.

The specialist reports that Black Rot of Sweet Potatoes was reduced 50 per cent. by treatment of seed with formaldehyde and 90 per cent. by treatment with bichloride of mercury. The county agent in Dorchester county estimated that 400 farmers treated their sweet potato seed, resulting in the saving of $25,000 worth of sweet potatoes from disease.

Ten demonstrations were conducted for control of disease in Irish potatoes, 1,500 acres of potatoes were affected. The potatoes of eight growers were recommended for seed purposes as certified stock. The potato industry is a large one in Maryland and every effort must be made to reduce injury from disease.

Miscellaneous Work.

The specialists report conducting two demonstrations for the control of Pea Root-Rot. Six demonstrations were conducted for control of disease on cantaloupes and cabbage. About 500 acres were affected by this work. The cabbage from an ordinary seed was a total failure while the "Wisconsin All-seasons" variety used in the demonstration gave 100 per cent. yield.

Five orchard management demonstrations were supervised by the specialist. These were conducted in co-operation with the de-

partments of Horticulture and Entomology. The late spring freeze interfered with this work.

Plant Disease Survey.

In co-operation with the federal office of Plant Disease Survey, a survey of 129 fields of wheat was made in different counties of the State. The result showed that the loss to wheat the past year indicated an approximate loss of 2.2 per cent from loose smut; 4.8 per cent. from leaf rust; 3.5 per cent. from scab and injury from cold amounting to 31.8 per cent.

Potato Wart.

Three cases of potato wart were found in Western Maryland in 1920. In co-operation with the Federal Horticultural Board a careful survey was made of the suspected territory in Allegany county this summer. In all, 3,706 potato inspections were made, of which 2,452 were in gardens.

Thirty-two thousand two hundred cards, circulars and bulletins illustrative and descriptive of the wart disease have been distributed in the State. Quarantine of the infected gardens has been issued. While this is partly control work, yet it is necessary for our service to educate the people in that section to grow immune varieties of Irish potatoes. We must also see to it that the disease does not spread. The specialists submit the following summaries:

Dr. R. A. Jehle.

Number of demonstrations conducted		54
Number of people reached by demonstrations		2,900
Number addresses delivered		20
Attendance, estimated		10,621
Number of letters written		125
Number of specimens identified		100
Number of farms and gardens surveyed for disease		400
Number of persons advised on disease control		2,000
Number of miles traveled by rail	9,038	
Number of miles traveled by auto	4,097	
Total miles traveled		13,135

C. E. Temple (part time).

Number of days in office		32
Number of days in field		21
Number of addresses given		3
Number in attendance		114
Number of letters written		675
Number of specimens identified		325
Number of farms and gardens surveyed		25
Number of persons advised on disease control		1,500
Number of miles traveled by rail	545	
Number of miles traveled by auto	928	
Total miles traveled		1,473

Farmers' Institutes.

Farmers' Institutes, short courses and community meetings have been held as heretofore, by the forces of the Extension Service. In some sections of the State, the demand for regular institutes is as great as ever, while in others the people desire a different class of work. In many cases demonstrations of various kinds have been conducted in connection with the meetings.

The following is a summary of the Institute work:

Total number of institutes	90
Total number of days	90
Total number of sessions	176
Total estimated attendance	11,440
Total number of lectures	32

General Educational Extension.

Prof. C. S. Richardson, in charge of this department of the Extension Service, reports that the work of this department may be divided into four branches:

Lectures.
Motion Pictures.
Correspondence Courses.
High School Public Discussion League.

The activities of these four departments for the year were as follows:

Lectures.

Addresses before rural communities	50
Total number of persons in attendance	10,000

The work of instructing the members of the Boys' and Girls' Clubs throughout the state in parliamentary law and in public speaking was begun this year and such classes were organized and regularly met in Harford county. This work was eminently successful and exceedingly popular with both the boys and girls and their parents. It is recommended that as much of this work as possible be done during the next year.

Motion Pictures.

Average number of reels on hand for distribution	75
Total number of films exhibited	325
Total number of persons in attendance	25,000
Pictures not held by us but ordered for our patrons	100
(From the Department of Agriculture and other sources)	
Approximate number of persons in attendance	15,000 to 20,000

Having no funds for the purchase of motion picture films, we have been compelled to borrow the pictures we have used from the Bureau

of Commercial Economics and other concerns. It is hoped that funds will permit making a substantial investment in good motion picture films. On account of the specialized character of most of the pictures, we have been holding, only a certain percentage of the orders for pictures could be filled by us.

Correspondence Courses.

Number of men taking correspondence courses	68
Number of women taking correspondence courses	11
Total	79

Owing to the lack of facilities for conducting the correspondence work, only seven courses for this feature of the work have been offered so far—as follows: English, Fertilizers, Farm Poultry, Bee Keeping, Farm Machinery, Farm Dwelling Construction, Dairy Farming, Vegetable Gardening.

High School Public Discussion League.

Number of schools in the league	58
Persons in attendance at debates	12,000

The work of the Discussion League has been very successful, and seems to have met a long-felt demand in the High Schools of the State. Not only have the discussions been a source of great interest and education to the students themselves, but have also been of great intellectual benefit to the adults of the communities.

Prof. Richardson has spared no means to develop the activities of Educational Extension and with the limited available funds, splendid progress has been made. It is hoped that a special budget may be available to develop all phases of this work. The Specialist made a large number of addresses and sent out 829 first-class letters and 628 circulars and mimeographed circulars.

LAND OPPORTUNITIES.

The Extension Service has handled a large amount of correspondence from out-of-the-State farmers and others seeking to locate in Maryland. Dr. Bomberger has given careful attention to all such inquiries. Lists of farms offered for sale have been prepared by the county agents so that anyone may learn from this office the properties that are on sale in the various sections of the State.

Our nearness to markets and pleasant climate, together with great variety of soil, offers unusual opportunities to prospective settlers.

Considerable advertisement of the State has been made at various National Shows. We hope to be able to conduct a systematic advertisement of the agricultural possibilities of Maryland.

Miscellaneous Work.

Aside from the regular project work, there is a great amount of miscellaneous extension work conducted by specialists connected with the teaching force and Experiment Station.

The men in the agricultural branches of both divisions willingly assist in emergency work. A splendid spirit of co-operation exists in all branches of the Institution. Among those who have greatly aided our Extension Specialists and county agents are Prof. J. E. Metzger, Agronomy; Dr. A. G. McCall, Soils; Dr. De Voe Meade, Animal Industry; Dr. W. T. L. Taliaferro, Farm Management. All of these men have willingly met the many calls that the Service has made upon them.

Dean P. W. Zimmerman consented again to manage the exhibit of the service and Institution at the State Fair at Timonium. He had the cordial co-operation of all departments in getting up, with limited funds, a splendid all-round exhibit at this Fair. The exhibit included the following features:

1. Better Sires Exhibits.
2. Boys' Clubs Pure Bred Pig Exhibit.
3. Boys' Clubs Pure Bred Calves Exhibit.
4. Boys' and Girls' Poultry Club.
5. Dairy Judging Contest.
6. Agronomy Exhibit.
7. Soils Exhibit.
8. Entomology and Bee Culture.
9. Plant Pathology.
10. Horticultural Exhibit.
11. Livestock Disease Control.
12. Engineering.
13. Home Demonstration.
14. Milk Exhibit.
15. Poultry Exhibit.
16. Information Booth.

It is hoped that funds will be available to arrange a permanent exhibit for the service and that we may have one man devote his full time to this important work.

The service is especially indebted to Dr. H. J. Patterson, director of the Experiment Station, for his cordial assistance and advice in all undertakings of mutual concern.

Conclusion.

An effort has been made to give a general summary of the activities of the Extension Service during the past year. The splendid reports by the agents and specialists have only been referred to in the most meager style. We have a splendid force of men and women who are giving their all to the service of the State with the single ideal of serving the rural people. The duty of directing the work of the service with such a spirit animating the force is a privilege and pleasure. I am under obligations to all the extension staff and especially to Assistant Director Bomberger and the office force for splendid support and co-operation in prosecuting the work of the service.

The outlook for extension activities in the state was never brighter. While the farmers are passing through a difficult period, yet they are manifesting a steadily increasing interest in improving their agricultural practices and adopting advanced methods for economic production. There is also a greater manifestation for co-operative action in organization, marketing and other rural activities that speaks for rural progress in the State.

There is a large amount of work ahead, but substantial progress is marking the County Agents' activities in every county. The Extension Service and Institution are indebted to the farmers of the State for their interest, co-operation and support in carrying forward the agricultural development of the State. Maryland has unlimited possibilities agriculturally and now people are beginning to take advantage of our natural opportunities.

The director and members of the extension staff are deeply appreciative of the interest and cordial support given to our every undertaking by President A. F. Woods. We are also grateful for the assistance rendered by the officials of the States Relations Service, U. S. Dept. of Agriculture. The work conducted in co-operation with the Department of Agriculture serves to bring these two Institutions together in serving the people of the State.

IN ACCOUNT WITH THE UNITED STATES AND STATE APPROPRIATIONS UNDER SMITH-LEVER EXTENSION ACT, 1920-1921.

		Smith-Lever Funds.		
		Total.	Federal.	State.
Dr.				
Unexpended balance from 1919-1920		.....	.....	.....
To receipts from the Treasurer of the United States and from the State sources, as per appropriations for fiscal year ended June 30, 1921, under Act of Congress, approved May 8, 1914 (Smith-Lever Act)		$128,783.22	$ 69,391.61	$ 59,391.61
Cr. Abstract.				
By salaries	1	103,372.12	54,850.90	48,521.22
Labor	2	4.20	4.20	.....
Printing and distribution of publications	3	2,552.27	552.27	2,000.00
Stationery and small printing	4	1,711.30	972.00	739.30
Postage, telegraph, telephone, freight, and express	5	572.54	235.79	336.75
Heat, light, water, and power	6	.....	.....	.....
Supplies	7	298.89	176.37	122.52
Library	8	39.94	22.52	17.42
Tools, machinery, and appliances	9	49.50	49.50	.....
Furniture and fixtures	10	263.88	162.09	101.79
Scientific apparatus and specimens	11	340.73	233.73	107.00
Livestock	12	.....	.....	.....
Traveling expenses	13	18,530.28	11,167.93	7,362.35
Contingent expenses	14	881.05	881.05	.....
Unexpended balance		166.52	83.26	83.26
Total		$128,783.22	$ 69,391.61	$ 59,391.61

SUMMARY STATEMENT OF EXPENDITURES, BY PROJECTS, SHOWING SOURCES OF FUNDS USED FOR EXTENSION WORK.

Projects.	Total.	Smith-Lever.		College.	State.	County.	Other.
		Federal.	State.				
Administration	$ 26,001.07	$ 11,099.94	$ 10,087.72	.....	$ 4,813.41	.....	.....
Printing and distribution of publications	2,553.16	552.27	2,000.00	.....	.89	.....	.....
County Agent Work	92,479.56	36,782.34	21,110.47	.....	14,104.25	20,482.50	.....
Home Demonstration Work	42,588.17	11,891.36	6,397.30	.....	16,139.51	8,160.00	.....
Boys' Club Work	6,622.90	1,205.27	5,316.04	.....	101.59	.....	.....
Agronomy	3,758.16	536.96	2,863.76	.....	357.44	.....	.....
Animal Industry	3,137.63	274.68	2,786.26	.....	76.69	.....	.....
Horticulture	6,480.23	3,445.26	2,870.83	.....	164.14	.....	.....
Dairying	2,777.27	1,371.25	1,406.02	.....	.....	.....	.....
Rural Organization	1,282.94	.....	1,260.48	.....	22.46	.....	.....
Poultry	3,683.78	474.31	3,209.47	.....	.....	.....	.....
Forestry	.....	.....	.....	.....	.....	.....	.....
Entomology	6,325.82	620.37	.....	.....	5,705.45	.....	.....
Pathology	3,592.89	1,054.34	.....	.....	2,538.55	.....	.....
General Educational Extension	1,279.60	.....	.....	.....	1,279.60	.....	.....
Total expenditures	$202,563.18	$ 69,308.35	$ 59,308.35	.....	$ 45,303.98	$ 28,642.50	.....
Unexpended balance	166.52	83.26	83.26	.....	.....	.....	.....
Total	$202,729.70	$ 69,391.61	$ 59,391.61	.....	$ 45,303.98	$ 28,642.50	.....

SUMMARY STATEMENT, BY PROJECTS, SHOWING CLASSIFICATION OF EXPENDITURES FROM ALL FUNDS USED FOR EXTENSION WORK (EXCEPT THOSE FROM U. S. DEPARTMENT OF AGRICULTURE), FISCAL YEAR ENDING JUNE 30, 1921.

Items of Expense.	Total.	Administration.	Printing and Distribution of Publications.	County Agents.	Home Demonstration Work.	Boys' Club Work.	Agronomy.	Animal Industry.
Salaries	$142,256.06	$ 19,240.92	.....	$ 67,639.48	$ 28,868.35	$ 4,460.00	$ 2,640.00	$ 2,466.59
Labor	30.70	30.70	.....	.....	.....	.....	.....	.....
Printing and Distribution of Publications	2,553.16	.....	$ 2,553.16	.....	.....	.....	.....	.....
Stationery and small printing	2,423.20	2,345.11	.....	.....	.....	.....	.....	.....
Postage, telegraph, telephone, freight and express	1,295.75	1,091.77	.....	.....	.....	.....	.....	.....
Heat, light, water and power	.....	.....	.....	.....	.....	.....	.....	.....
Supplies	5,127.27	576.38	.....	4,459.00	.....	.....	.....	.....
Library	147.99	138.06	.....	.....	.....	.....	.....	.....
Tools, machinery and appliances	79.76	79.76	.....	.....	.....	.....	.....	.....
Furniture and fixtures	662.74	422.74	.....	.....	.....	.....	.....	.....
Scientific apparatus and specimens	405.06	375.73	.....	.....	.....	.....	.....	.....
Live Stock	.....	.....	.....	.....	.....	.....	.....	.....
Traveling expenses	46,083.25	201.66	.....	20,381.08	13,719.82	2,162.90	1,118.16	671.04
Contingent expenses	1,498.24	1,498.24	.....	.....	.....	.....	.....	.....
Total expenditures.	$202,563.18	$ 26,001.07	$ 2,553.16	$ 92,479.56	$ 42,588.17	$ 6,622.90	$ 3,758.16	$ 3,137.63

SUMMARY STATEMENT, BY PROJECTS, SHOWING CLASSIFICATION OF EXPENDITURES FROM ALL FUNDS USED FOR EXTENSION WORK (EXCEPT THOSE FROM U. S. DEPARTMENT OF AGRICULTURE), FISCAL YEAR ENDING JUNE 30, 1921.

Items of Expense.	Horticulture.	Dairying.	Rural Organization.	Poultry.	Forestry.	Entomology.	Pathology.	General Educational Extension.
Salaries	$ 5,000.00	$ 1,800.07	$ 969.99	$ 2,500.00	.....	$ 3,642.53	$ 2,615.66	$ 412.47
Labor	.....	.....	.....	.....	.....	.....	.....	.....
Printing and Distribution of Publications	.....	.....	.....	.....	.....	.....	.....	.....
Stationery and small printing	.....	.....	.....	.....	.....	78.09	.....	.....
Postage, telegraph, telephone, freight and express	.....	.....	.....	.....	.....	203.98	.....	.....
Heat, light, water and power	.....	.....	.....	.....	.....	.....	.....	.....
Supplies	.....	.....	.....	.....	.....	91.89	.....	.....
Library	.....	.....	.....	.....	.....	9.93	.....	.....
Tools, machinery and appliances	.....	.....	.....	.....	.....	.....	.....	.....
Furniture and fixtures	.....	.....	.....	.....	.....	240.00	.....	.....
Scientific apparatus and specimens	.....	.....	.....	.....	.....	29.33	.....	.....
Live Stock	.....	.....	.....	.....	.....	.....	.....	.....
Traveling expenses	1,480.23	977.20	312.95	1,183.78	.....	2,030.07	977.23	867.13
Contingent expenses	.....	.....	.....	.....	.....	.....	.....	.....
Total expenditures.	$ 6,480.23	$ 2,777.27	$ 1,282.94	$ 3,683.78	.....	$ 6,325.82	$ 3,592.89	$ 1,279.60

COUNTY HOME DEMONSTRATION AGENTS.

County.	Name.	Headquarters.
Allegany	*M. Rhea Morgan	Cumberland
Anne Arundel	*Mrs. Georgiana Linthicum	Annapolis
Baltimore		
Calvert		
Caroline	*Emily Kellog	Denton
Carroll	*Rachel Everett	Westminster
Cecil	*Elizabeth V. Hodgson	Elkton
Charles	*Mrs. Elva S. Bohannan	La Plata
Dorchester	*Ruth E. Van Scoter	Cambridge
Frederick	*Frances Gerber	Frederick
Harford	*Blanche Gittinger	Bel Air
Howard		
Garrett	*Laura I. Henshaw	Oakland
Kent	*Susan V. Hill	Chestertown
Montgomery	*Catherine M. Cowsill	Rockville
Prince George's	*Ellen L. Davis	Hyattsville
Queen Anne's	*Mary L. Byrn	Centerville
St. Mary's	*Ethel Joy	Leonardtown
Somerset	*Louise M. Mills	Princess Anne
Talbot	*Mrs. Olive K. Walls	Easton
Washington	*Susan S. Garberson	Hagerstown
Wicomico	*Clara Mullen	Salisbury
Worcester	*Lucy J. Walter	Snow Hill

LOCAL AGENTS.

Southern Maryland	*J. F. Armstrong (col.)	Seat Pleasant
Eastern Shore	*L. H. Martin (col.)	Princess Anne
Charles and St. Mary's	*Leah D. Woodson (col.)	La Plata

GARDEN SPECIALIST.

Baltimore City	Mrs. Adelaide Derringer	Administration Building, Madison & Lafayette Aves.

*In co-operation with U. S. Department of Agriculture.

ONLY THE BULLETINS NAMED BELOW ARE AVAILABLE FOR DISTRIBUTION.

These will be sent free of charge to any address upon application.

AVAILABLE EXTENSION BULLETINS.

No. 2. Feb., 1920—Relation of Lime to Agriculture (Revised).
No. 6. June, 1917—What Maryland's Farmer Boys and Girls Can Do to Help the Nation This Summer.
No. 9. Dec., 1917—Electricity on the Farm.
No. 10. Mar., 1918—Improving the School Grounds.
No. 12. May, 1918—Rural School Lunch.
No. 13. Apr., 1918—Why We Can.
No. 14. Nov., 1918—The Seventeen Year Locust.
No. 15. Dec., 1918—Milk Cost Survey Report.
No. 17. Mar., 1919—Boys' Corn Club Lessons.
No. 18. May, 1919—Maryland Invites You.
No. 19. Apr., 1919—Boys' Potato Club Lessons.
No. 20. Oct., 1919—Educational Extension.
No. 21. Apr., 1920—Sewing Course for Club Members.
No. 22. Nov., 1920—Marketing Farm Products in Maryland.

SUMMARY STATEMENT, BY PROJECTS, SHOWING CLASSIFICATION OF EXPENDITURES FROM ALL FUNDS USED FOR EXTENSION WORK (EXCEPT THOSE FROM U. S. DEPARTMENT OF AGRICULTURE), FISCAL YEAR ENDING JUNE 30, 1921.

Items of Expense.	Horticulture.	Dairying.	Rural Organization.	Poultry.	Forestry.	Entomology.	Pathology.	General Educational Extension.
Salaries	$ 5,000.00	$ 1,800.07	$ 969.99	$ 2,500.00	.....	$ 3,642.53	$ 2,615.66	$ 412.47
Labor	.....	.....	.....	.....	.....	.....	.....	.....
Printing and Distribution of Publications	.....	.....	.....	.....	.....	.....	.....	.....
Stationery and small printing	.....	.....	.....	.....	.....	78.09	.....	.....
Postage, telegraph, telephone, freight and express	.....	.....	.....	.....	.....	203.98	.....	.....
Heat, light, water and power	.....	.....	.....	.....	.....	.....	.....	.....
Supplies	.....	.....	.....	.....	.....	91.89	.....	.....
Library	.....	.....	.....	.....	.....	9.93	.....	.....
Tools, machinery and appliances	.....	.....	.....	.....	.....	.....	.....	.....
Furniture and fixtures	.....	.....	.....	.....	.....	240.00	.....	.....
Scientific apparatus and specimens	.....	.....	.....	.....	.....	29.33	.....	.....
Live Stock	.....	.....	.....	.....	.....	.....	.....	.....
Traveling expenses	1,480.23	977.20	312.95	1,183.78	.....	2,030.07	977.23	867.13
Contingent expenses	.....	.....	.....	.....	.....	.....	.....	.....
Total expenditures.	$ 6,480.23	$ 2,777.27	$ 1,282.94	$ 3,683.78	.....	$ 6,325.82	$ 3,592.89	$ 1,279.60

COUNTY HOME DEMONSTRATION AGENTS.

County.	Name.	Headquarters.
Allegany	*M. Rhea Morgan	Cumberland
Anne Arundel	*Mrs. Georgiana Linthicum	Annapolis
Baltimore		
Calvert		
Caroline	*Emily Kellog	Denton
Carroll	*Rachel Everett	Westminster
Cecil	*Elizabeth V. Hodgson	Elkton
Charles	*Mrs. Elva S. Bohannan	La Plata
Dorchester	*Ruth E. Van Scoter	Cambridge
Frederick	*Frances Gerber	Frederick
Harford	*Blanche Gittinger	Bel Air
Howard		
Garrett	*Laura I. Henshaw	Oakland
Kent	*Susan V. Hill	Chestertown
Montgomery	*Catherine M. Cowsill	Rockville
Prince George's	*Ellen L. Davis	Hyattsville
Queen Anne's	*Mary L. Byrn	Centerville
St. Mary's	*Ethel Joy	Leonardtown
Somerset	*Louise M. Mills	Princess Anne
Talbot	*Mrs. Olive K. Walls	Easton
Washington	*Susan S. Garberson	Hagerstown
Wicomico	*Clara Mullen	Salisbury
Worcester	*Lucy J. Walter	Snow Hill

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